

Exhibit H

(previously filed as Dkt. 609-9)

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA**

UNITED STATES OF AMERICA, ET AL.,
Plaintiffs,

v.

GOOGLE LLC,
Defendant.

Case No. 1:23-cv-00108 (LMB/JFA)

EXPERT REPORT OF MARK A. ISRAEL

January 23, 2024

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- Connected TV display advertising—which Plaintiffs’ markets exclude—grew from essentially zero percent of U.S. display ad spending in 2013 to 15 percent in 2022.
- Direct sales of display advertising between advertisers and publishers (including programmatic direct options)—which Plaintiffs’ markets exclude—accounted for at least 70 percent of U.S. display ad spending throughout the entire 2013 to 2022 period.⁷

48. *Plaintiffs’ proposed relevant product markets violate core principles of market definition and thus are overly narrow in the sense that they leave out critical competitive constraints (and thus fail at the most important purpose of market definition) (Section IV):* The primary purpose of market definition is to identify the most important competitive constraints faced by the firm and products in question, and thus to provide the proper setting in which to assess the extent to which the firm in question has market or monopoly power in the face of those constraints. Plaintiffs define overly narrow product markets—omitting key competitive constraints—which violate core principles of market definition and thus cannot provide a sound basis on which to assess market power.

- *Markets should include all significant competitive constraints:* The relevant market(s) should be defined to include all close competitors to the firm (and its relevant products) whose conduct is at issue. Close competitors are those competitors that impose significant competitive constraints on the product(s) at issue—meaning the competitors that would, directly or indirectly, take significant revenue from the firm if it were to raise its prices or lower the quality of its offerings. A market definition that excludes

⁷ In contrast, indirect sales of display advertising between advertisers and publishers remained relatively constant over the relevant time period, accounting for 21 percent of U.S. display ad spending in 2013 and 23 percent in 2022.

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significant competitive constraints will naturally (but mistakenly) find a lack of competition in the narrowly defined market, and naturally (but mistakenly) find the presence of significant market or even monopoly power.

For example, as explained in greater detail below, markets limited to “open web display advertising” miss the most active areas of competition in digital advertising and ad tech, and thus do not capture the most significant competitive constraints on Google. Hence, such an artificially narrow market definition does not provide a sound basis for assessing the extent to which Google’s ad tech products possess market power or for assessing the effects of Google’s challenged conduct. Understanding the competition that exists between open web display advertising and other forms of display advertising (including but not limited to the strong competition that comes from so-called “walled gardens” such as Meta and Amazon) is critical to evaluating both the extent of Google’s market power and the effects of the challenged conduct. *As one simple implication for the present case, a market definition that defines Meta and Amazon out of the market is not useful for drawing insights about the actual competition that Google faces.*

- *Application of principles of market definition to two-sided markets with indirect network effects:* A particular complication arises in this case because the ad tech industry is characterized by indirect network effects. One consequence of indirect network effects is that actions on one side of the market necessarily affect outcomes on the other side of the market; for example, actions that reduce the amount of advertising inventory offered by publishers will reduce the number of bids for digital ads and vice versa. Likewise, actions that create new digital properties where users see digital ads—for example, the

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creation of a new social media platform—will affect the number and amount of bids for digital ads sold on pre-existing digital properties.

This fact implies that ad tech intermediaries are competitively constrained by the options that *both* publishers and advertisers have, regardless of whether the intermediary is publisher-facing or advertiser-facing or both. This follows because one of the constraints on any action that would harm one side of the market (e.g., higher prices) is that—due to feedback effects—it would also cost sales on the other side of the market. When ad tech intermediaries extract more of the surplus created by matches between advertisers and impressions created when users visit publishers’ digital properties, that makes ad tech less attractive (for publishers, advertisers, or both), which reduces the total quantity of digital advertising transacted via ad tech. As the quantity transacted falls, so do the revenues of ad tech intermediaries on both sides of the market, because intermediaries earn money when they facilitate transactions. Because every sale by a publisher is a purchase by an advertiser, a purely one-sided focus is necessarily incomplete:

Substitution away from ad tech on either side costs all intermediaries business. Due to the feedback effects and constraints on both sides of the market—and contrary to Prof. Lee’s analysis—the indirect network effects that characterize two-sided markets imply that analysis of relevant antitrust markets requires consideration of *all* the dimensions of substitution on both sides of the platform, not just constraints on one side.

- *Plaintiffs’ “advertiser ad network” market is overly narrow:* Plaintiffs allege that “advertiser ad networks” for open web display advertising constitute a relevant product market. However, this narrow market definition excludes important competitive alternatives that advertisers can make use of.

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Even within the scope of open web display advertising, advertisers can access the same inventory using other types of buying tools such as demand-side platforms (DSPs) and/or buying directly from publishers, options that are excluded from Plaintiffs’ narrow “advertiser ad network” market. In addition, advertisers can substitute to forms of advertising that Plaintiffs exclude from their alleged relevant market, including advertising on social media properties and in-app advertising. For example, if an advertiser is not successfully reaching its target audience when it utilizes Google Ads, it may shift ad spend to Meta Ads Manager in the hopes that it can reach its target audience on Facebook or Instagram. Given the wide range of options to which advertisers can and do switch (as demonstrated by Prof. Simonson’s survey and other empirical evidence)—and the associated ad tech that facilitates those transactions—Plaintiffs’ market definition is untenable.

Including other open web display advertiser buying tools such as DSPs reduces Google’s share in a candidate advertiser buying tool market to no higher than around 50 percent, without even considering other omitted competitive constraints like social media advertising. Further including direct purchases in that market (but continuing to omit other important competitive constraints like social media advertising), Google’s share is around 40 percent based on impressions and less than 30 percent based on ad spending. Considering all buying tools for display advertising (i.e., including social media and all other forms of display advertising), Google’s share is less than 20 percent.

- *Plaintiffs’ ad exchange market is overly narrow:* Plaintiffs allege that “ad exchanges for indirect open web display advertising” constitute a relevant product market. However, publishers and advertisers have important options to substitute away from indirect sales

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transacted through ad exchanges—meaning important paths to connect advertisers and publishers without relying on indirect sales—that Plaintiffs’ market omits. Publishers and advertisers can and do disintermediate ad exchanges with direct sales. As one demonstration of the importance of this substitution between direct and indirect channels, a core purpose of a publisher’s ad server is to allocate sales of impressions between direct and indirect buyers (via functionality such as Enhanced Dynamic Allocation). Similarly, the deprecation of third-party cookies has caused a shift to direct purchases (which enable the use of first-party cookies rather than third-party cookies).

In addition, the same alternatives to “open web display advertising” that exist for publishers and advertisers with respect to publisher ad servers and advertiser buying tools also exert competitive pressure on ad exchanges. For example, advertiser substitution away from open web content (e.g., toward walled gardens like Meta or Amazon) or publishers doing the same (e.g., toward apps) is explicitly a shift from an open web-based exchange to an exchange-equivalent elsewhere, which directly reduces open web exchange revenue.⁸ All of these options—along with the large number of ad exchanges for indirect open web display advertising (that is, the extensive competition even within Plaintiffs’ alleged market)—constrain Google’s behavior in providing ad exchange services. Put simply, there are many paths to connect advertisers and publishers that do not depend on Google’s ad exchange.

⁸ Throughout this report, I use the term “open web” for expositional convenience. However, for the reasons explained in Section IV, this terminology does *not* delineate relevant antitrust product markets.

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Google's share in a candidate ad exchange market is less than 45 percent *even taking Plaintiffs' market as given*. Including direct sales in that market (to say nothing of other omitted competitive constraints like social media advertising), Google's share is less than 40 percent based on impressions and less than 30 percent based on ad spending. Considering all display advertising spending, less than 20 percent uses Google's ad exchange tools.

- *Plaintiffs' publisher ad server market is overly narrow*: Plaintiffs allege that publisher ad servers for open web display advertising constitute a relevant product market. In fact, publishers have important options for their content, their ad formats, and their ad tech tools, all of which enable them to substitute away from Google's ad server, and all of which Plaintiffs' market omits, including (i) shifting more of their content (and associated monetization) to apps, something that is a strategic focus of many publishers; and (ii) self-supply of ad server technology (which is particularly attractive to the largest publishers that account for the vast majority of activity on Google's ad server). Both of these alternatives would cause a loss of sales for Google's open web-focused ad server and thus competitively constrain Google. Indeed, most competitive focus in recent years is on mobile and apps in particular, yet Plaintiffs define this competitive activity out of their analysis by excluding the ad server analogue for in-app ads from the market.

Expanding Plaintiffs' publisher ad server market to include in-house ad servers (such as those used by Meta for advertising on its own properties), Google's current share is less than 40 percent. Moreover, among the in-app mediation platforms (the in-app analogue of a publisher ad server) serving the rapidly growing segment of in-app display advertising, Google's share is also less than 40 percent. Considering all display

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advertising spending, only approximately 30 percent currently uses Google’s publisher ad server tools.

- *Plaintiffs’ proposed markets are inconsistent with commercial realities:* The pricing patterns observed in the data, both over time and across ad tech components, refute Plaintiffs’ proposed markets and demonstrate that Plaintiffs are alleging an actual monopolist that does not raise prices. Instead, these patterns show that reliance on component-specific markets at different levels of the ad tech stack does not provide a sound economic framework with which to assess Google’s alleged market power or its challenged conduct.

Regarding variation in prices and concentration over time, exits by publisher ad servers create an opportunity to test Plaintiffs’ candidate markets. If component-specific markets at different levels of the ad tech stack are valid antitrust markets, exits due to Google’s alleged anticompetitive conduct should result in higher prices and lower output. But that is not what is observed in the data, which show DFP’s prices *declining* and overall output *increasing* over time, even as ad server exits have occurred. Moreover, Plaintiffs have not demonstrated that prices would have declined even more absent the challenged conduct.

Similarly, despite the alleged increases in AdX’s share of open web ad exchanges—from almost nothing in 2008 to an alleged “more than 50%” today (though in fact its true share is lower as I explained above)—and despite Plaintiffs’ claim that Google has monopolized ad exchanges over this time period, AdX’s average fee has stayed essentially constant. Thus, Plaintiffs’ proposed component-specific product markets are inconsistent with economic realities and do not provide a useful economic framework for

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assessing market power or competitive effects. Instead, competitive constraints beyond Plaintiffs' alleged markets must be constraining the observed pricing patterns. Because these competitive constraints are omitted from Plaintiffs' product market definitions, those definitions are neither valid nor informative about the extent to which Google possesses market power.

Regarding variation in prices and concentration levels across ad tech components, if Plaintiffs' three *separate* proposed markets were valid—such that shares within those markets were credible indicators of market power—Google should be able to take its biggest cut of ad spending in the market where its share is the highest. Instead, Google's fees are lowest where its alleged component-specific share is highest (publisher ad serving). As with the variation in prices over time, this fact demonstrates that Plaintiffs' proposed component-specific product markets are not valid, as they do not provide a sound economic framework for assessing market power or competitive effects. Rather, consideration of the full two-sided market is required to understand the pricing structure across that market.

Finally, Plaintiffs' proposed component-specific markets are inconsistent with increasing integration by ad tech providers and their products, which means firms are competing by offering products that cross over more than one of Plaintiffs' narrow markets and that, in some cases, skip over Plaintiffs' proposed markets entirely. For example, direct integrations between advertiser buying tools and publishers compete with ad exchanges and provide an alternative way to connect advertisers and publishers with no need for an exchange. Similarly, direct integrations between ad exchanges and advertisers compete with advertiser buying tools. Plaintiffs' component-level markets ignore these direct

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integrations—which shatter the artificial boundaries between their component-specific markets—and thus fail to properly account for their competitive implications.

- *A single two-sided market definition properly captures the competitive realities of the ad tech industry and the competition that Google faces:* A two-sided market definition that considers the various ad tech components as a single platform that matches advertisers and publishers provides the proper and most informative economic framework in which to understand Google’s behavior and the competitive environment in which it operates. Specifically, such a two-sided market: (i) includes relevant competitive constraints from both sides of the market; (ii) makes sense of Google’s pricing patterns; (iii) explains why Google focuses on the competitive pressures imposed by walled gardens, which themselves offer an integrated solution to connect advertisers to publishers; and (iv) allows for the fact that firms may compete by offering various combinations of products from Plaintiffs’ artificially narrow component-specific markets as a single product.

Regarding Google’s pricing patterns, firms in two-sided markets have an incentive to set a pricing structure across both sides of the market that takes into account competitive conditions on both sides of the market. It is not uncommon to see low (or even negative) prices on one side of the market (e.g., the customer-facing side of credit card markets) even if that side of the market, on its own, would appear to have greater market concentration. Such patterns—which are inconsistent with the use of separate component-specific markets—can only be understood by properly considering the full two-sided market. Here, the observed ad tech pricing patterns (such as low prices for publisher ad servers) can best be explained by the fact that Google has strong incentives to set its own prices (and develop other product features) in such a way as to recognize

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competitive constraints from both sides of the market, and to balance the interests of advertisers, publishers, and users.

Regarding competition with walled gardens (which Prof. Lee refers to as digital properties “using integrated advertising tools”), in two-sided markets, there is often vigorous competition between open and closed platforms. In the present context, Meta and Amazon operate owned-and-operated advertising platforms that are much more closed than Google’s, and yet the evidence that I discuss below indicates significant substitution between open web display advertising and advertising on walled gardens.

Google’s share within a single two-sided transaction market for display advertising (as opposed to Plaintiffs’ component-specific open web display advertising markets) is less than 30 percent and declining, and has been less than 50 percent over the entire 2008-2022 period. Within a single two-sided transaction market for all digital advertising (including search advertising), Google’s share is less than 40 percent and declining, and has been less than 50 percent over the entire 2008-2022 period.

49. Because competitive conditions vary across countries—driven by differences in incomes, language, the regulatory environment, and other factors—it is most appropriate to assess competition and the effects of Google’s challenged conduct in a geographic market limited to the United States. Analysis based on worldwide data, which inaccurately blends the different competitive conditions in other countries with those in the United States, obscures the nature of competition that exists in the United States.

50. *Google does not have monopoly power in any properly-defined relevant market (Section I):* For Google to have monopoly power as a matter of economics, it must be the case that Google has the ability to profit by restricting market-wide output, without that output being

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advertisers account for the vast majority of ad spend, *including on Google Ads*.²⁰¹ If an “advertiser ad network” were to attempt to raise price to advertisers for these tools and services, some ad spend would shift to alternative buy-side tools thus reducing the “advertiser ad network’s” profits.

195. Second, “advertiser ad networks” and DSPs bid into the same exchanges and compete for the same advertising inventory.²⁰² Buy-side tools often deduct the price they charge from their bids and thus the tool price directly affects the outcomes of auctions. If an “advertiser ad network” were to attempt to raise price, it would lose more bids to DSPs and thus earn lower profits.²⁰³

196. Consider the first mechanism. Advertisers frequently multi-home by using both “advertiser ad networks” and DSPs. For instance, as shown in Figure 13, according to Prof. Simonson’s advertiser survey,²⁰⁴ more than 70 percent of advertisers and agencies use two or more buying tools, and more than 40 percent use three or more buying tools.²⁰⁵ The existence of

[REDACTED]

²⁰² See, e.g., GOOG-DOJ-11733358 at -363 (stating that “GDA competes against other demand sources,” including “DBM” and “AdX Buyers”).

²⁰³ Prof. Lee entirely ignores this dimension of competition.

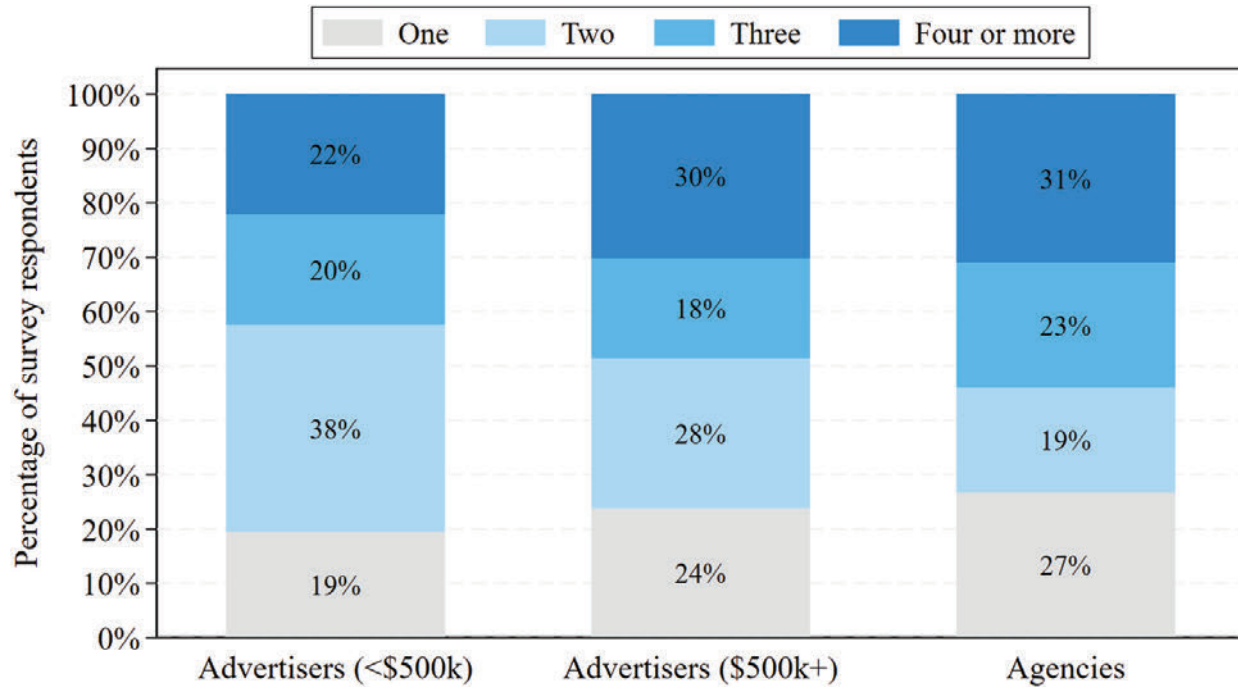
²⁰⁴ I rely on Prof. Simonson’s advertiser survey (in part) to inform a variety of my conclusions (Expert Report of Itamar Simonson, January 23, 2024). See, e.g., *2023 Merger Guidelines*, § 4.2.A (explaining that “evidence from [...] customer surveys” can be informative when assessing competition).

²⁰⁵ Specifically, the figure summarizes the responses to the following survey question: “An ad buying tool is a programmatic advertising platform that allows advertisers and media buying agencies to bid automatically on display ad inventory from a wide range of publishers. Some ad

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multi-homing among buy-side tools reduces switching costs and makes it easy for advertisers (and/or their agencies) to shift spend across different tools.

Figure 13: Number of Ad Buying Tools Used Among Survey Respondents



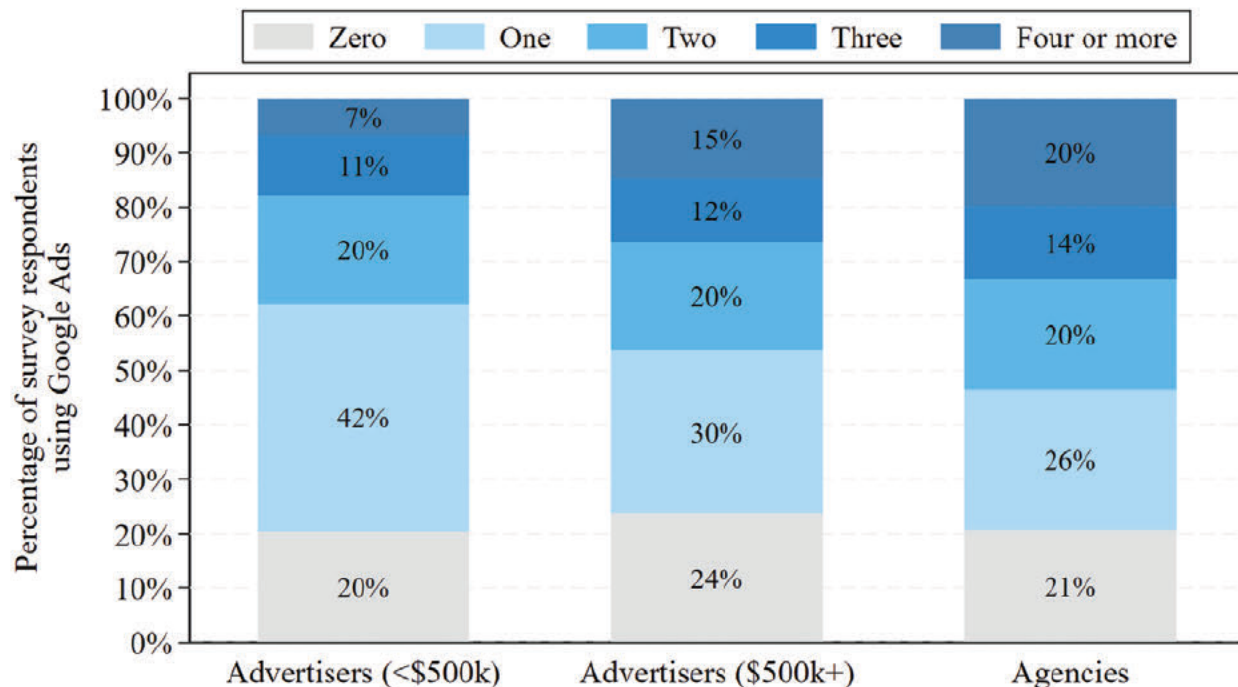
Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

197. Similar patterns hold specifically for the advertisers and agencies that use Google Ads. As shown in Figure 14 below, among the surveyed advertisers and agencies that use Google Ads, at least three quarters also use at least one other non-Google buying tool. Thus, a clear majority of surveyed advertiser and agency customers of Google Ads already use at least one other buying tool and could readily switch spend in response to a hypothetical Google Ads price increase.

buying tools can also be used to buy video and search ad inventory. Ad buying tools include demand side platforms, or ‘DSPs.’ Which of the following ad buying tools, if any, have you and/or your business unit/team used during the past year for programmatic display advertising?”

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Figure 14: Number of Non-Google Ad Buying Tools Used by Survey Respondents Using Google Ads

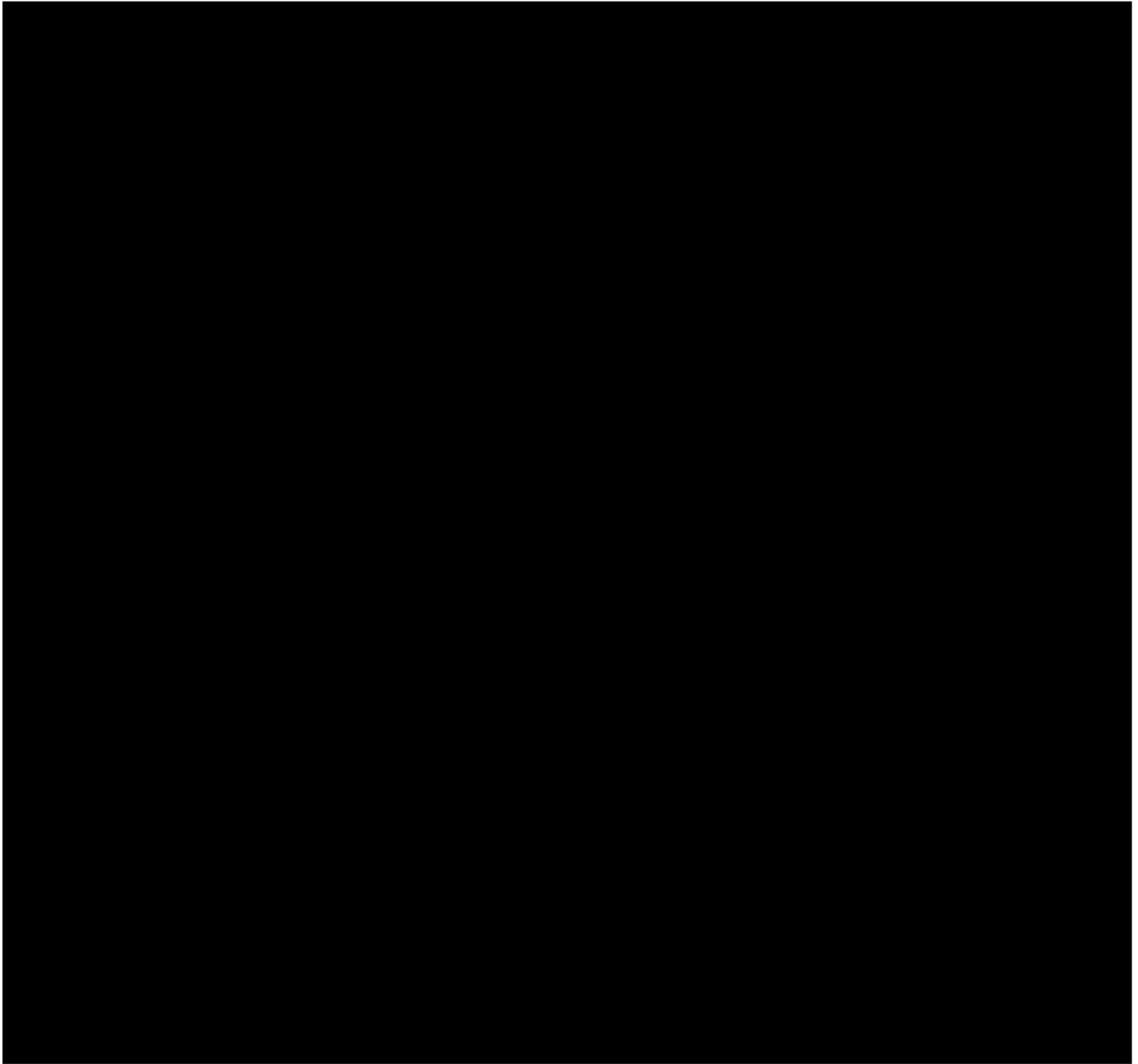


Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

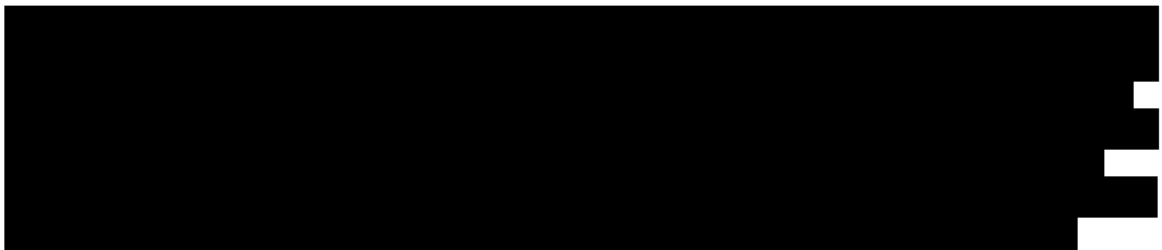
198. Table 1 below identifies examples in which an advertiser’s spending pattern on AdX is strongly consistent with substitution between Google Ads and third-party advertiser buying tools (which are generally omitted from Plaintiffs’ alleged “advertiser ad network” market).²⁰⁶ Specifically, the table identifies cases between 2019 and 2022 for which there was a large decrease in the advertiser’s AdX spending via Google Ads and a simultaneous large increase in

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the advertiser's AdX spending via third-party buying tools, which strongly supports a conclusion of substitution between Google Ads and those tools.²⁰⁷



■



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Table 2: Google Ads and DV360 Spending by Advertiser Size, 2022

	# of Advertisers	2022 spending	
		\$ (million)	%
Google Ads			
Spent less than \$10,000	1,097,972	\$752	4.3%
Spent more than \$10,000	52,221	\$16,742	95.7%
Spent more than \$50,000	15,471	\$15,967	91.3%
Spent more than \$100,000	9,409	\$15,541	88.8%
Spent more than \$500,000	2,923	\$14,150	80.9%
Spent more than \$1,000,000	1,748	\$13,322	76.2%
All Google Ads advertisers	1,150,193	\$17,495	100.0%
DV360			
Spent less than \$10,000	9,220	\$14	0.2%
Spent more than \$10,000	3,185	\$7,020	99.8%
Spent more than \$50,000	1,652	\$6,984	99.3%
Spent more than \$100,000	1,249	\$6,956	98.9%
Spent more than \$500,000	662	\$6,816	96.9%
Spent more than \$1,000,000	483	\$6,688	95.1%
All DV360 advertisers	12,405	\$7,033	100.0%

Sources: GOOG-AT-MDL-DATA-000486626 to -8277 (Google Ads RFP 243 data) and GOOG-AT-MDL-DATA-000561263 to -420 (DV360 XBridge data)

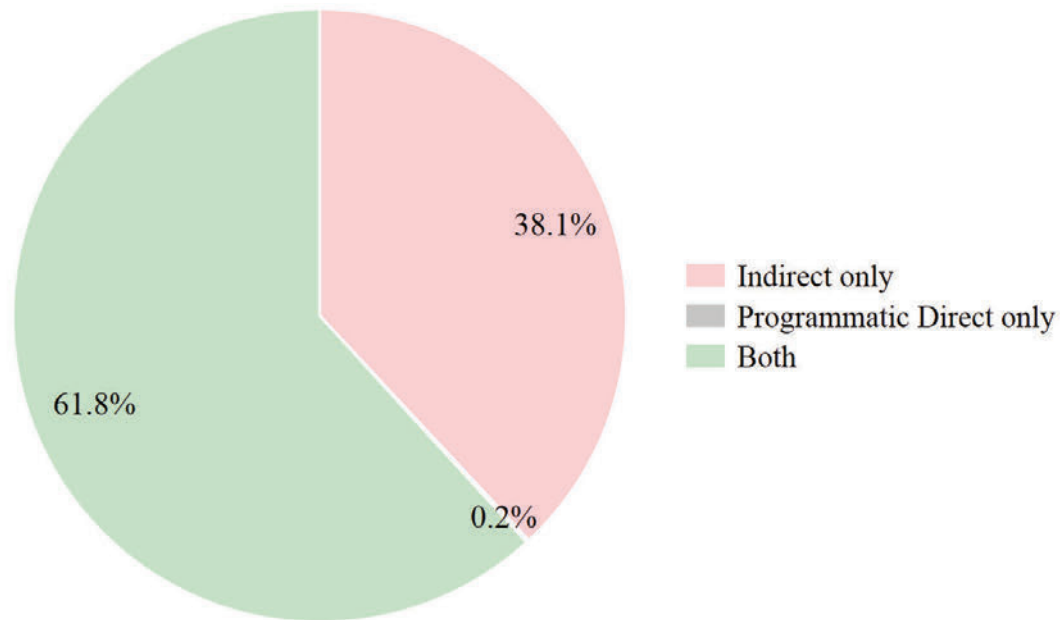
Notes: Advertisers with a missing parent name or zero total spending are excluded.

200. Moreover, many smaller advertisers make use of agencies or other consultants that use multiple buying tools, including DSPs, on those small advertisers' behalf. For example, Prof. Simonson's survey indicates that 67 percent of advertisers with less than \$500,000 in annual ad spend and 69 percent of advertisers with less than \$50,000 in annual spend use an ad agency and/or consultant for digital advertising.²⁰⁹ Ad agencies are sophisticated buyers with the capability to track performance and to move ad spend in order to optimize an advertiser's returns.

²⁰⁹ Calculated from Appendix G.3 - Lower-Spend Advertiser Survey Raw Data.xlsx (Simonson Advertiser Survey data).

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Figure 20: Distribution of DV360 U.S. Web Non-Video Display Ad Spending by Advertiser Use of Programmatic Direct and Indirect Advertising, 2022



Sources: GOOG-AT-MDL-DATA-000561263 to -420 (DV360 XBridge data)

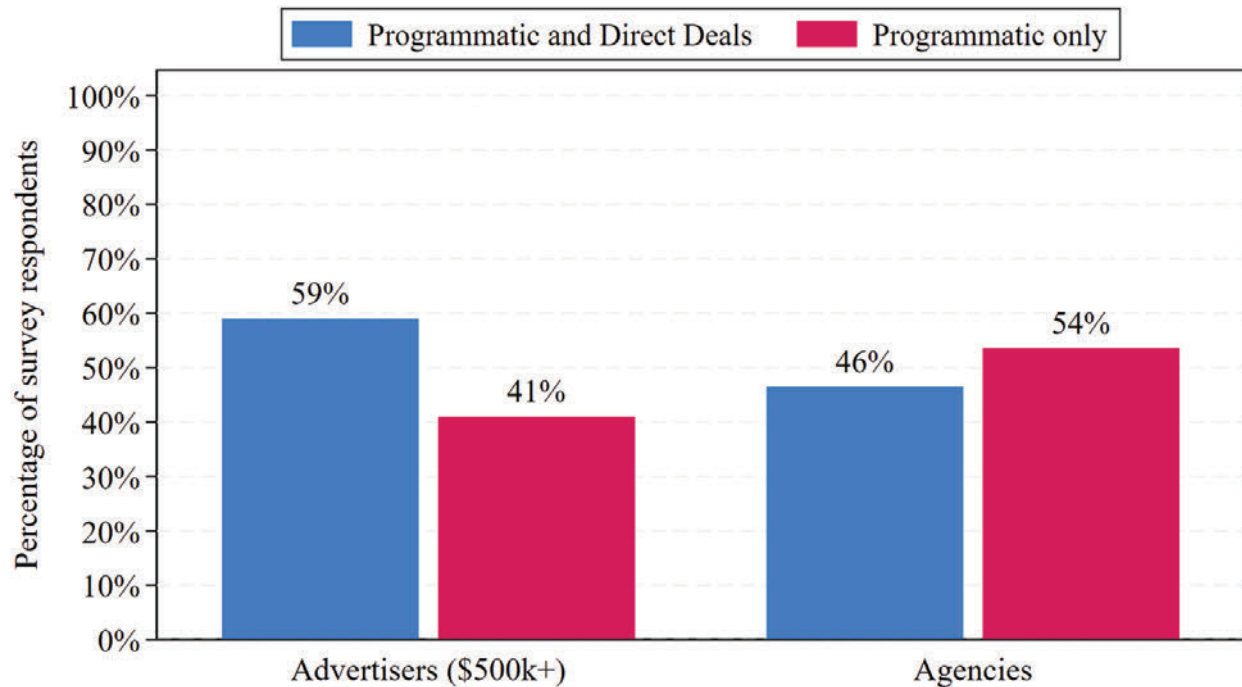
Notes: The data is limited to web non-video display impressions. An advertiser is considered to buy programmatic direct (indirect) impressions if at least two percent of their spending was for programmatic direct (indirect) impressions.

211. The results of Prof. Simonson’s survey further confirm that advertisers commonly rely on both direct and indirect methods to purchase ad inventory. As shown in Figure 21 below, 59 percent of advertisers with annual ad spend greater than \$500,000 and 46 percent of ad agencies use both direct and indirect methods to purchase display advertising.²³⁰

²³⁰ Specifically, of those survey respondents that make use of programmatic display advertising, the figure reports the percentage indicating that they used programmatic and direct deals in response to the following question: “Which of the following transaction methods has your business unit/team (or your ad agency) used to purchase display ad inventory in the past year?”

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Figure 21: Advertiser Use of Direct Deals Among Survey Respondents



Sources: Appendix F.3 and H.3 (Simonson Advertiser Survey results)

212. Recent changes to policies regarding the use of third-party cookies provide a helpful natural experiment for assessing substitution between direct and indirect ad spending. Specifically, policies that restrict the use of third-party cookies decrease the quality of open auction purchases of advertising inventory relative to direct deals that make use of first-party data to associate particular online impressions with offline identifiers. The deprecation of third-party cookies has led advertisers (and publishers) to substitute from indirect purchases (and open auction purchases specifically) to direct deals, with a recent article in Adweek noting that “a buyer that has a direct relationship with a publisher may be able to get more data to prove the effectiveness of their buys.”²³¹ The same article notes that “first-party data is insurance against fraud,” and that “[m]arketers are increasingly disillusioned with the pitch programmatic

²³¹ Catherine Perloff, “Direct Deals Grow for Marketers, but Won’t Solve All of Programmatic Ad Buying’s Ills,” Adweek, January 9, 2023.

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becomes more costly (including because one or more of the tools used to access it becomes less attractive).²⁴⁰ And those substitutes comprise alternative ways to access users.

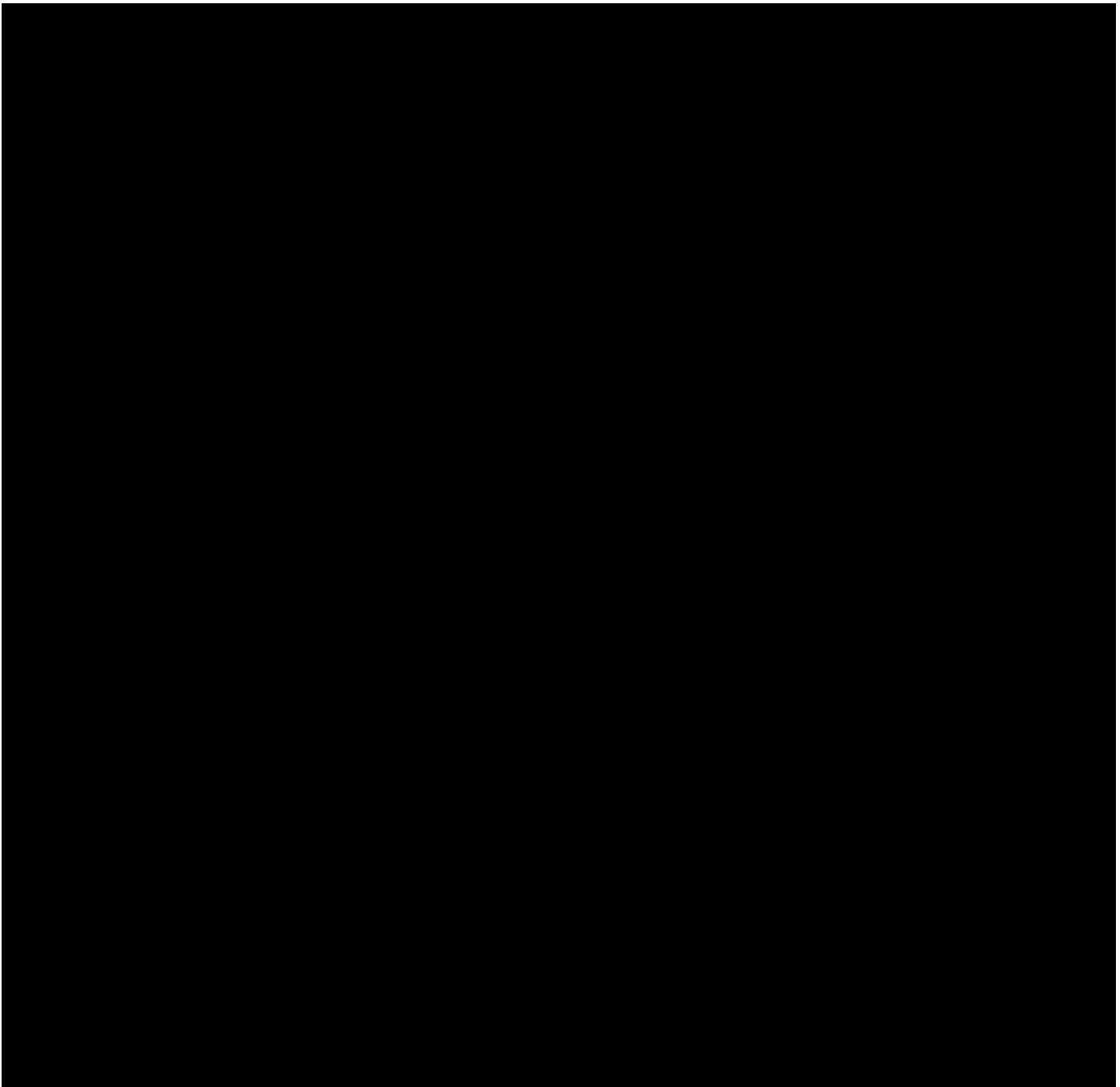
220. The set of such relevant substitutes depends on the strategy of the advertiser. For advertisers seeking to maximize return on investment (ROI) from advertising, the relevant set of competitive constraints that need to be included go far beyond those that Plaintiffs include in their market definition, since a wide range of types of advertising may provide the next-highest ROI.²⁴¹ For advertisers seeking access to a specific set of user attention, the closest substitutes are sites that those users also use—particularly as part of the same purchasing journey—as those sites enable advertisers to reach a similar set of users and thus provide alternative ways to convert those potential buyers into actual buyers.

221. An important implication of this point is that the same users that advertisers seek to reach via open web display advertising can also be reached through other channels, including properties Prof. Lee refers to as sites with integrated advertising tools, such as Facebook and Instagram. Such sites therefore act as key competitive constraints not only on open web publishers, but *also* on ad tech tools that facilitate the purchase of inventory from those publishers. If Google Ads or any buy-side tool for open web display advertising were to raise its fees, doing so would make open web display advertising less attractive to advertisers and induce

²⁴⁰ For empirical evidence that user attention is a key element of competition for advertisers, see Matthew Gentzkow, Jesse M. Shapiro, Frank Yang, and Ali Yurukoglu (2023), “Pricing Power in Advertising Markets: Theory and Evidence,” *NBER Working Paper*.

²⁴¹ Indeed, the results of Prof. Simonson’s advertiser survey indicate that ROI and the closely related ROAS are the most common choices by survey respondents as the most important metric in terms of accurately assessing the performance of display advertising (see Figure 116 in the appendix).

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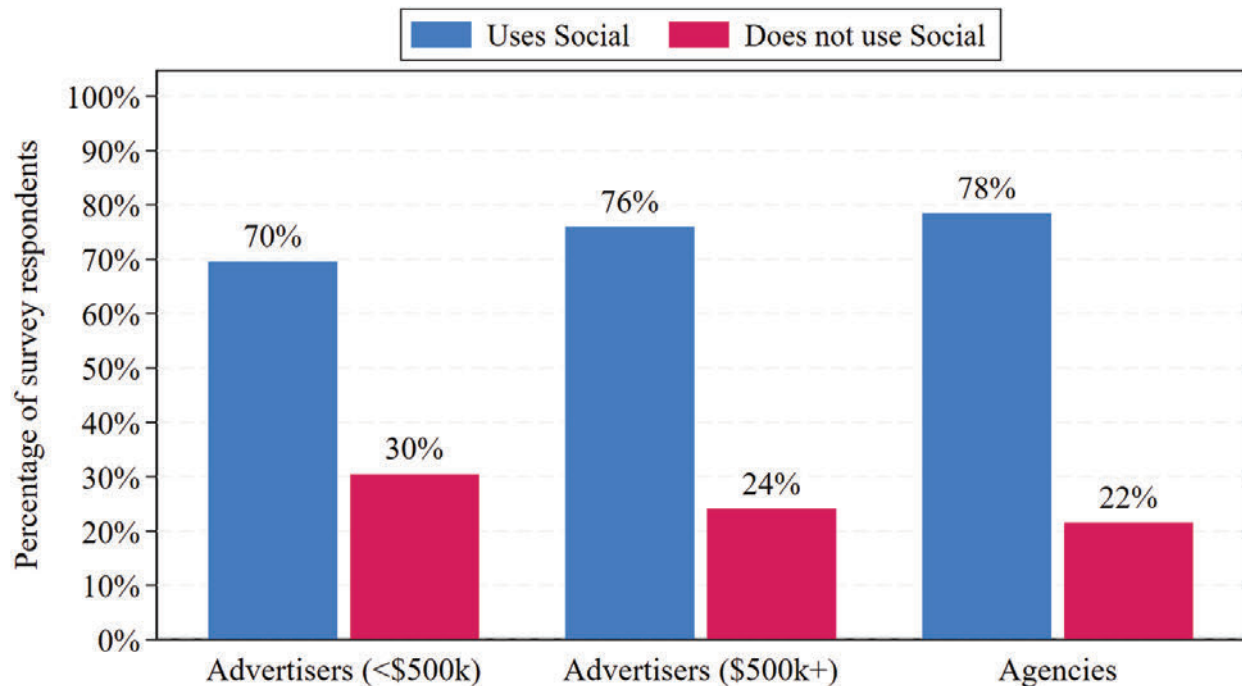


235. *Survey Evidence of Substitution:* Prof. Simonson's survey also demonstrates that advertisers and the agencies that work on their behalf would shift spend to walled gardens in response to an increase in the cost of display advertising. As an initial matter, advertisers that use display advertising also commonly use social media advertising (along with other forms of digital advertising). Specifically, Figure 28 below shows that, of advertiser and agency survey respondents that use open web display advertising, 70 percent or more *also* use social media

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advertising.²⁷⁰ The prevalence of multi-homing across open web display and social media advertising indicates low switching costs.²⁷¹

Figure 28: Use of Social Media Advertising Among Survey Respondents Using Open Web Display



Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

²⁷⁰ Specifically, respondents answered the following question: “Which of the following types of digital advertising, if any, have you used in the past year?” The results in the figure consider only those respondents indicating that they use display advertising.

²⁷¹ Prof. Lee suggests that advertiser multi-homing across different ad channels supports his conclusion that open web display advertising is a distinct market (*Lee Report*, ¶ 285). However, multi-homing is not evidence of lack of substitution. As the evidence described in this section indicates, it is common for advertisers to both multi-home across different ad channels *and* to substitute ad spend at the margin between those channels. Such behavior is consistent with both sound economics and the conclusion that open web display advertising and other forms of digital advertising are strong substitutes for each other. This is because substitution *at the margin* is what matters for market definition. Advertisers need not substitute all of their spend between one ad channel and another for those ad channels to act as competitive constraints for one another. (See also *Lee Report*, ¶ 190 (“Generally, if it is more costly for customers to move away from a given firm’s products or to use rivals’ products in addition, then that firm will tend to have greater market power over its customers: higher switching or multihoming costs reduce customers’ ability to substitute to or utilize rivals’ products when faced with a price increase or quality reduction.”).)

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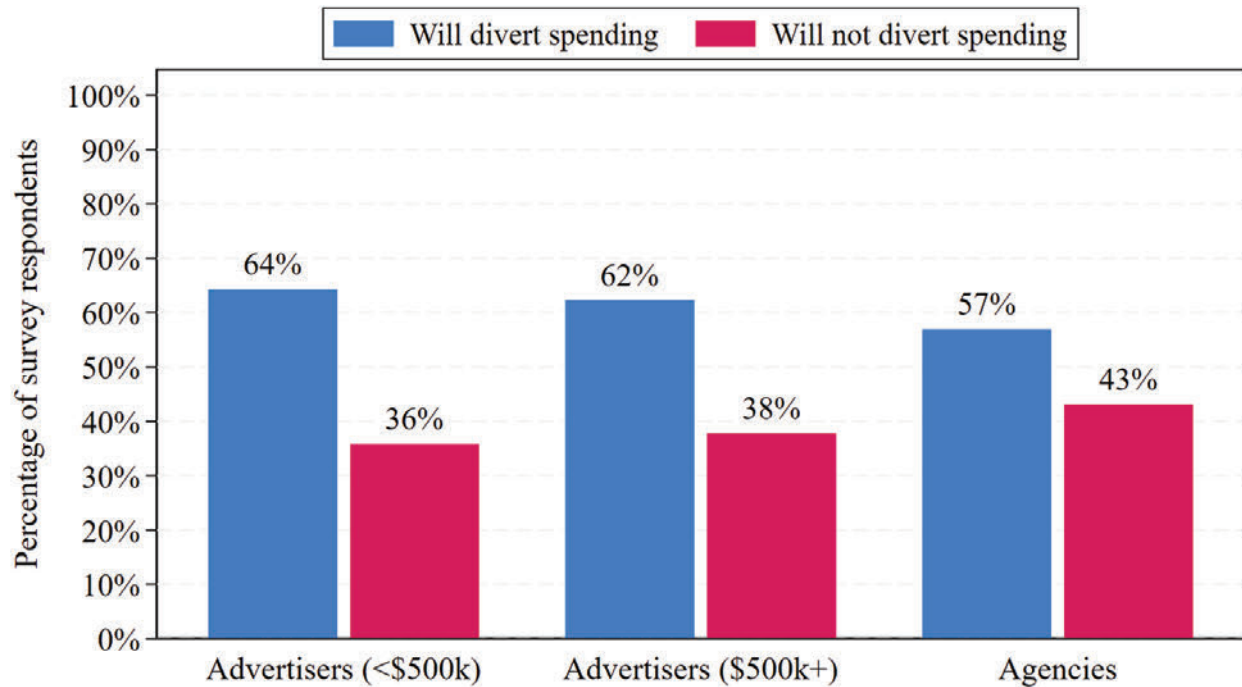
236. Figure 29, Figure 30, and Figure 31 below show that advertisers would, in fact, shift substantial spend to social media as well as other digital advertising channels in response to a small but significant increase in the cost of programmatic open web display advertising.²⁷² Specifically, Figure 29 shows that more than half of advertisers and agencies would divert spending to other types of digital advertising in response to an increase in the cost of programmatic open web display advertising.²⁷³ In other words, a substantial fraction of advertisers (and/or their agencies) would substitute to other alternatives in the event of a small but significant price increase.

²⁷² For a discussion of why the “Cellophane Fallacy” does not apply in this case, see Section IV.B above. For a discussion of buying tool prices, see Sections IV.F.1, VIII.A.2, and IX.B.1 below.

²⁷³ Respondents were asked the following question: “Now suppose that, based on your analysis, the cost of programmatic display advertising has recently increased by a small but significant amount, and will remain elevated for the foreseeable future. Assume further that, based on similar analyses for other digital advertising types, the costs of other digital advertising types have not changed and are not expected to change. So if the cost of programmatic display advertising increases (while the cost of other advertising types remains the same), will you or won’t you divert some of your advertising spending for the coming year to other types of digital advertising?”

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Figure 29: Response to a Cost Increase for Programmatic Display Among Survey Respondents



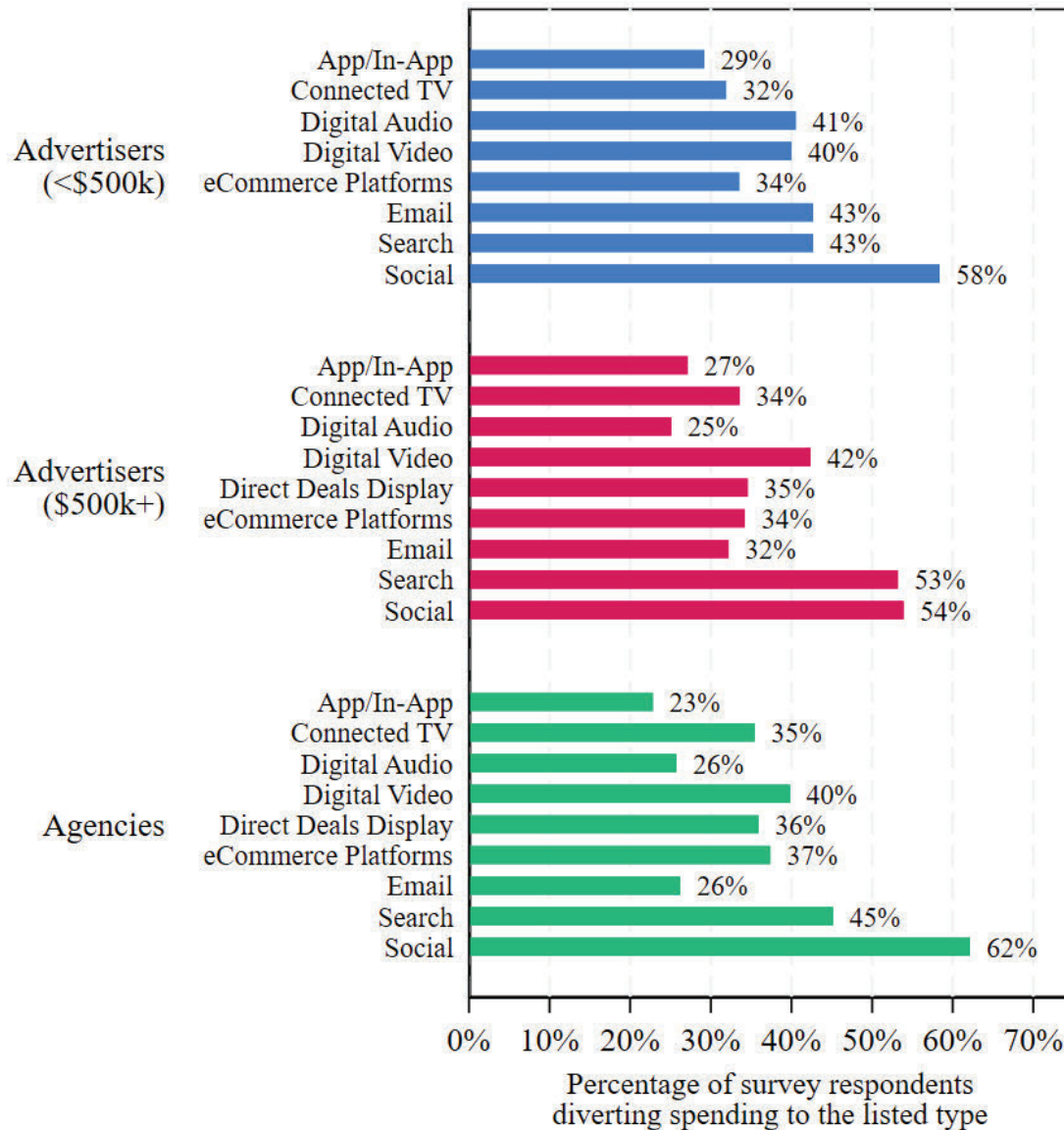
Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

237. Figure 30 shows that those advertisers who would switch would switch to a variety of other digital advertising alternatives, with social being the most frequently chosen alternative.²⁷⁴ For example, more than 50 percent of advertisers and agencies who would switch spending would shift at least some spend to social media.

²⁷⁴ Respondents were asked: “To which other types of digital advertising below, if any, would you divert your advertising spending for the coming year as a result of the increase in the cost of programmatic display advertising?”

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Figure 30: Advertising Types to Which Survey Respondents Would Shift Spend in Response to an Increase in the Cost of Programmatic Display



Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

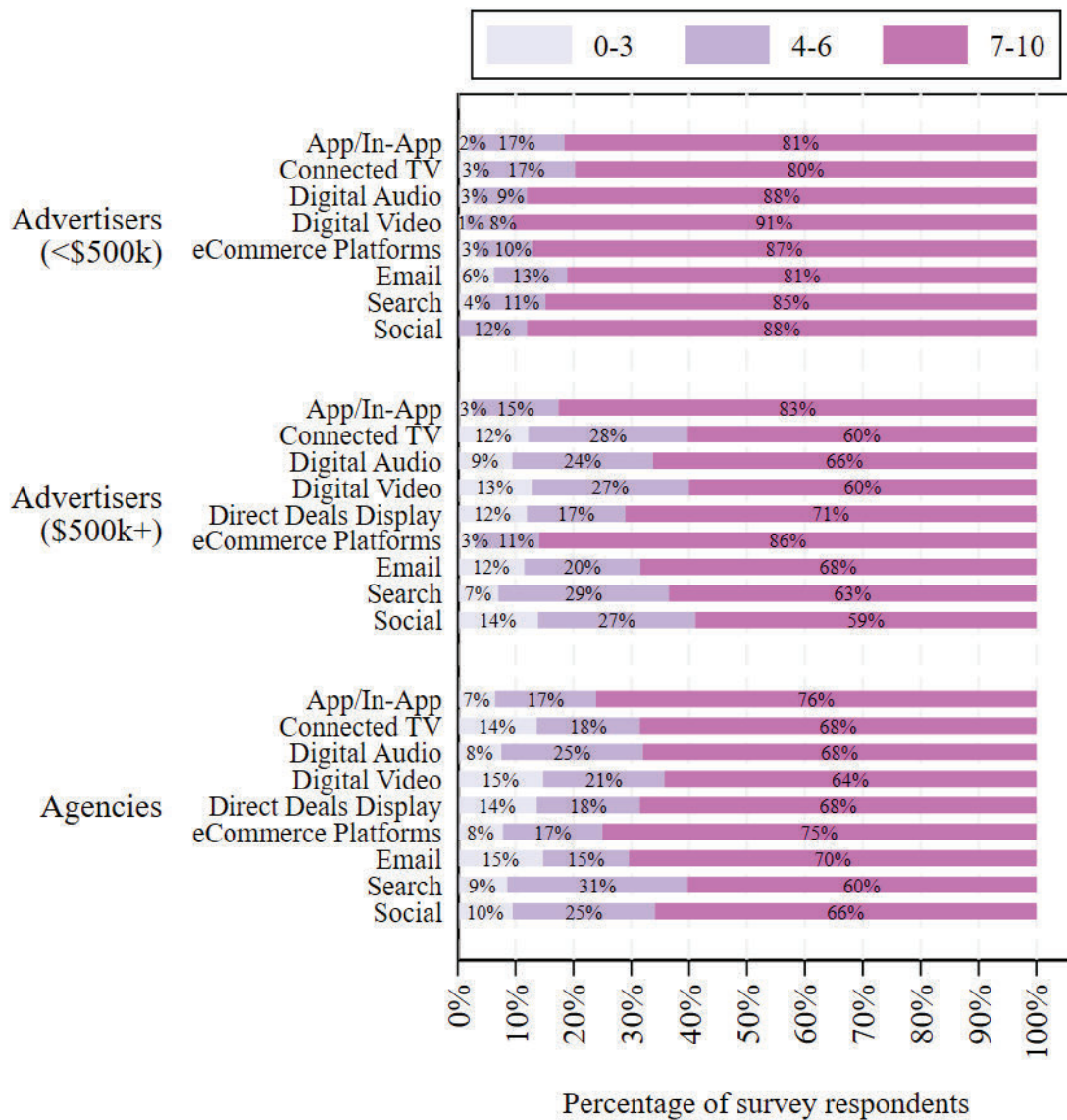
238. Finally, Figure 31 shows that those advertisers who would shift spending indicate that they would often shift a substantial amount of spending. Specifically, respondents were asked to rank on a scale of zero (no shift) to ten (substantial shift) the degree to which they would shift

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spend to other channels.²⁷⁵ Advertisers and agencies, on average, rated the degree to which they would shift spend to social between 6.6 and 8.0 (see Figure 121 in the appendix). In fact, substantial substitution to social was more common among lower-spend advertisers (with less than \$500,000 in annual spend), of which 88 percent entered a value of seven to ten, than among higher-spend advertisers or agencies, of which 59 and 66 percent entered a value of seven to ten (see Figure 31 below). These results indicate that, although social media advertising is an important competitive alternative to programmatic display for *all* advertisers, it is particularly attractive to smaller advertisers—that is, the very advertisers that Plaintiffs emphasize when claiming that their “advertiser ad network” market that excludes social media advertising is appropriate.

²⁷⁵ Respondents were asked: “In your previous answer, you indicated that the increase in the cost of programmatic display advertising will lead you to divert some of your advertising spending to the types of digital advertising listed below. Please use the sliders below to indicate, on a scale of 0 to 10, the extent to which you would divert (that is, increase) advertising spending for the coming year to each type of digital advertising that you just indicated. For each digital advertising type below, please select 0 if you expect to keep spending on that type of digital advertising for the coming year and 10 if you expect to substantially increase spending on that type of digital advertising.”

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Figure 31: Extent of Spending Changes Among Survey Respondents in Response to an Increase in the Cost of Programmatic Display**Sources:** Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

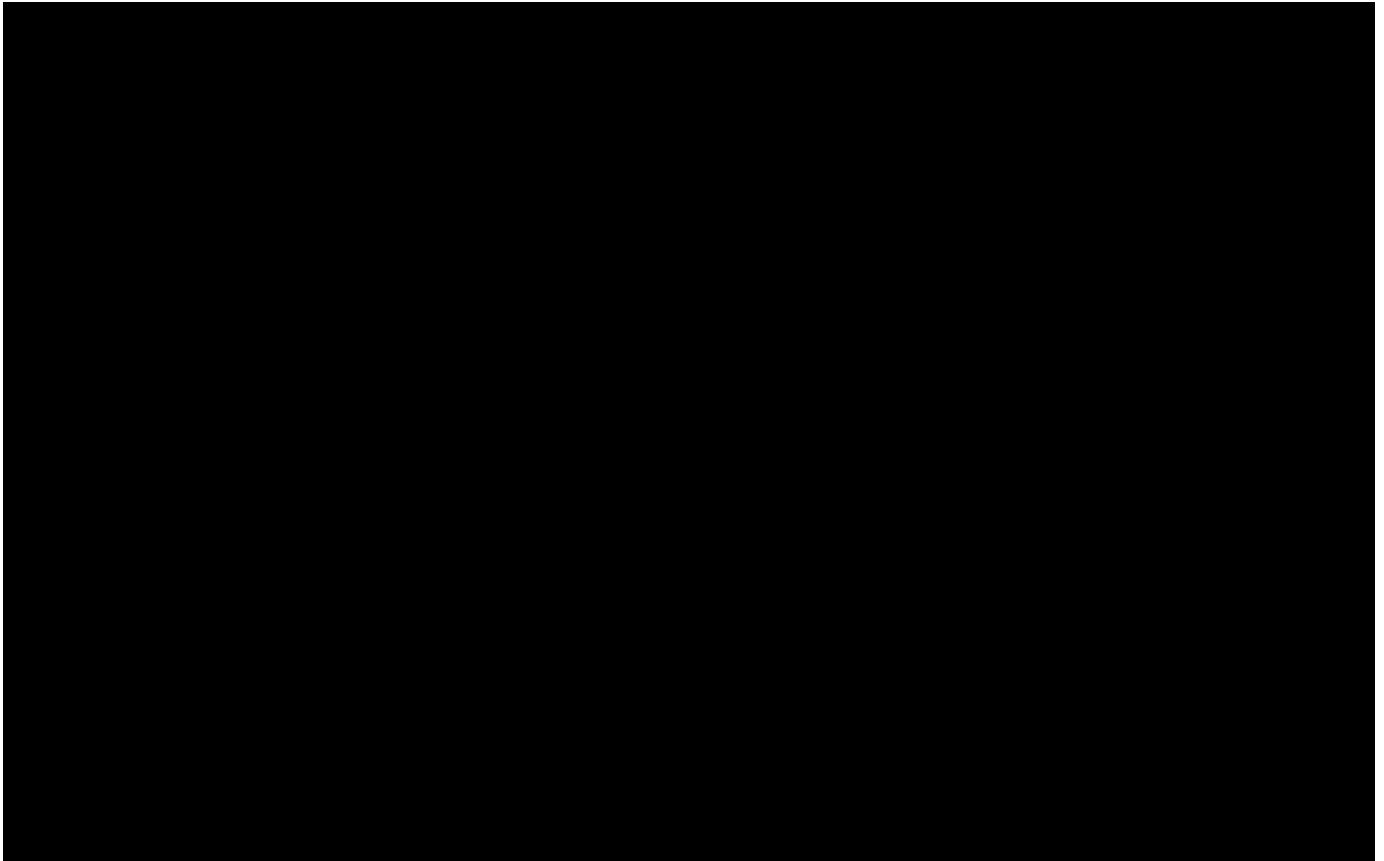
239. *Advertiser Multi-homing on Open Web Display and Properties with Integrated Advertising Tools:* As the data described below demonstrate, there is substantial advertiser multi-homing on open web display buying tools and advertising tools that are integrated with publisher properties (e.g., Meta and Amazon). Most advertisers, and certainly most large advertisers that account for the majority of ad spend, are *already* advertising on properties using integrated advertising tools, either directly or through ad agencies. In such cases, there are no

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switching costs associated with learning; advertisers simply shift ad spend across ad channels that they are already utilizing. The fact that advertisers accounting for the vast majority of spend already purchase both open web display inventory and inventory on properties using integrated advertising tools facilitates substitution between the two. The presence of advertiser multi-homing means that meaningful ad spend is marginal—if any particular buying tool became degraded or more expensive, advertisers can reallocate spend across all options, particularly because (as discussed above) they already do so on a regular basis.

240. Even those advertisers that do not currently multi-home can use ad agencies and other consultants to reduce the switching costs associated with shifting spend across ad channels. Ad agencies are sophisticated players that compete for the business of brands seeking to advertise by demonstrating that they can help those brands generate returns on their advertising dollars, and thus have the ability and incentive to make use of all competitive options to obtain the best terms. Indeed, an explicit purpose of ad agencies is to allocate ad spend across advertising channels in order to maximize ROI for their advertising customers.²⁷⁶ Consistent with this logic, the results of Prof. Simonson’s advertiser survey demonstrate that ad agencies generally multi-home across different ad channels, including open web display properties and properties using integrated advertising tools (see Figure 28).

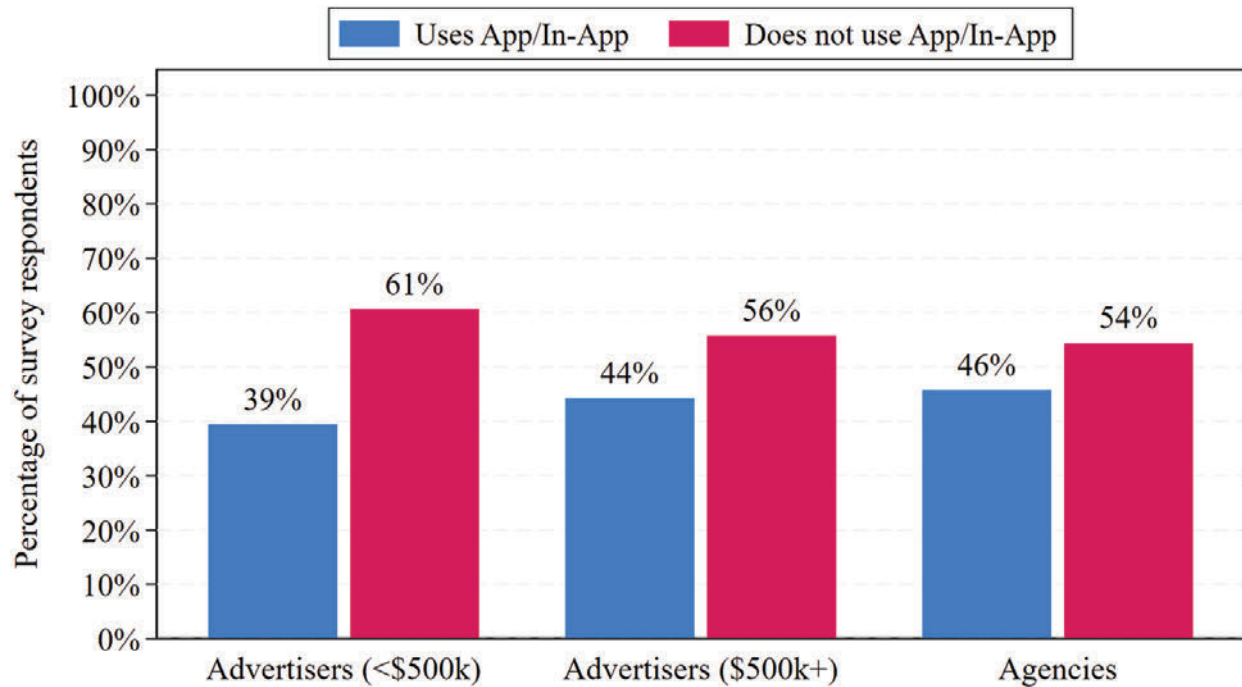
²⁷⁶ See, e.g., Dentsu, “Marketing Effectiveness” (stating that Dentsu uses “advanced measurement and analytics solutions and technology” to “help [their] clients optimise their budgets across all key touchpoints of the consumer journey to maximise the return from [clients’] investments.”); Publicis Health Media, “Optimization,” 2023 (stating that “[c]ampaign optimization at speed enables adjustments to the recommended media mix as defined by the measurement plan, allowing for more time and effort to be focused in the channels and messages that resonate best with our audiences”); and Deposition of Susan Schiekofer (GroupM), September 26, 2023, p. 143:4-19 (“Q. Okay. Does GroupM ever recommend that advertiser clients move spend to different formats based on what is producing the best return on investment? A. Yeah. [...] Q. Does GroupM reallocate advertising spending among these formats based on what is producing the best return on investment for the advertiser client? [...] A. Usually, yes.”).



247. Similarly, Prof. Simonson’s survey indicates that approximately 40 percent or more of advertisers and agencies that use open web display advertising also use in-app advertising (see Figure 35). Moreover, this figure likely underestimates the true degree of multi-homing between display and in-app advertising, as a substantial fraction of social media advertising occurs in-app (which Prof. Simonson’s survey carved out of the definition of app/in-app advertising²⁸¹). The fact that advertisers multi-home means that, if ad tech providers attempted to capture more of the value of matches on the open web, advertisers could simply shift more spending into apps to avoid those changes.

²⁸¹ See Simonson Advertiser Survey definitions (Appendix F.1 at F.1-7, Appendix G.1 at G.1-7, and Appendix H.1 at H.1-7).

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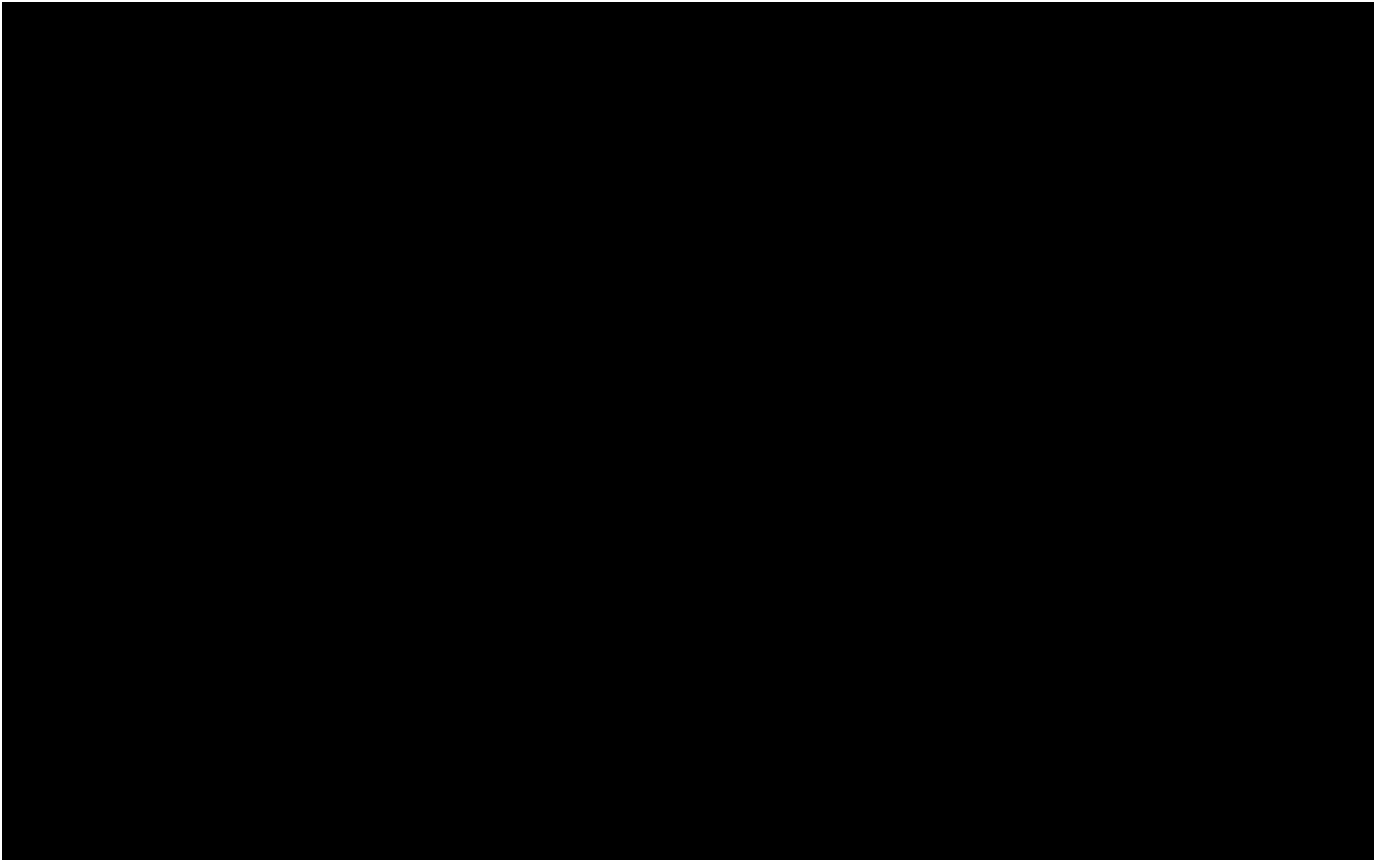
Figure 35: Use of In-App Advertising Among Survey Respondents Using Open Web Display

Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

248. The results of Prof. Simonson's survey also support the conclusion that advertisers would shift spend to in-app advertising in response to a small but significant increase in the price of open web display advertising. Figure 30 above shows that approximately 20 to 30 percent of advertisers that would shift spend would shift spend to in-app advertising. Figure 31 above (and Figure 121 in the appendix) shows that those advertisers that would switch would shift a substantial amount of spending. Specifically, more than three-quarters of survey respondents that indicated that they would shift spend to in-app rated the extent of that shift between seven to ten on a scale of zero to ten, with an average rating between 7.2 and 7.8.

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of both instream video and other types of display ads.²⁸³ For instance, Figure 37 below categorizes Google Ads advertisers based on whether they buy only instream video impressions, only other types of display impressions, or both, and then calculates the fraction of total Google Ads spending accounted for by advertisers of each type. In 2022, 64 percent of Google Ads spending was accounted for by advertisers buying both instream video and other types of display impressions.



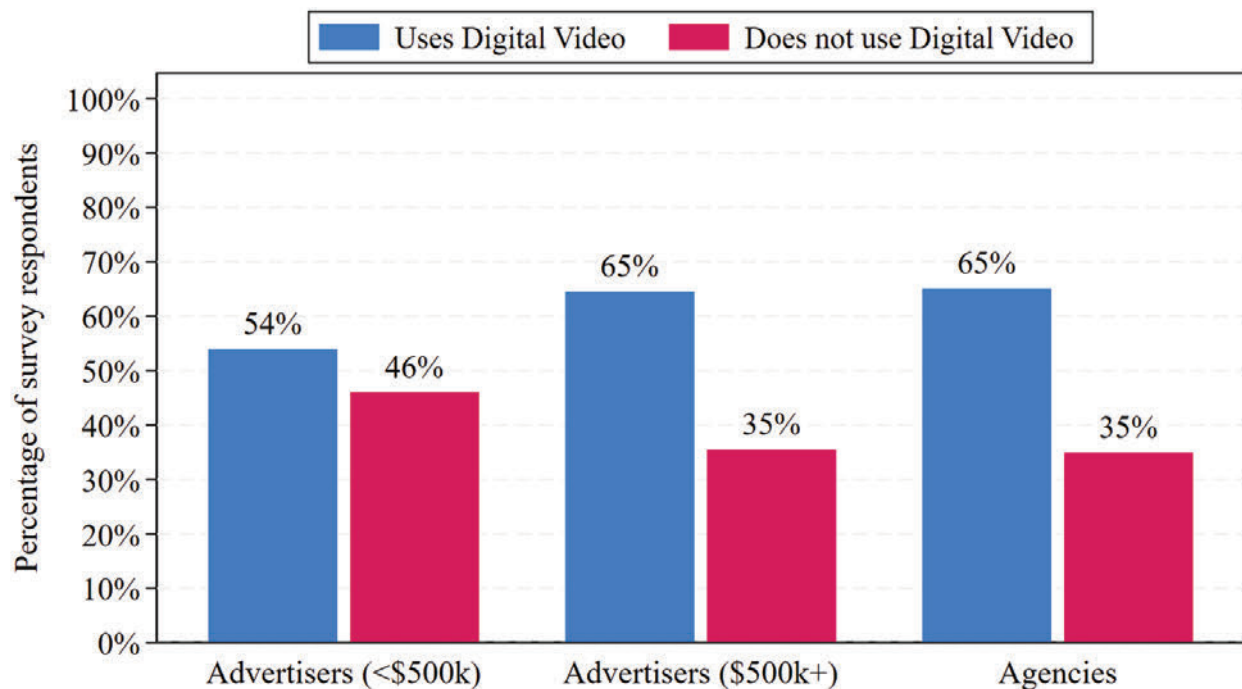
251. Similarly, Prof. Simonson’s survey indicates that more than 50 percent of advertisers and agencies (and nearly two-thirds of higher-spend advertisers and agencies) that use open web

²⁸³ For example, Google Ads offers tools that enable advertisers to create instream video ad creatives (Google, “Create a Video campaign,” 2024).

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display advertising also use digital video advertising (see Figure 38).²⁸⁴ As with in-app advertising, the fact that advertisers multi-home across instream video and other forms of display advertising means that, if ad tech providers attempted to capture more of the value of matches on the open web, advertisers could simply shift more spending into instream video to avoid those changes.

Figure 38: Use of Digital Video Advertising Among Survey Respondents Using Open Web Display



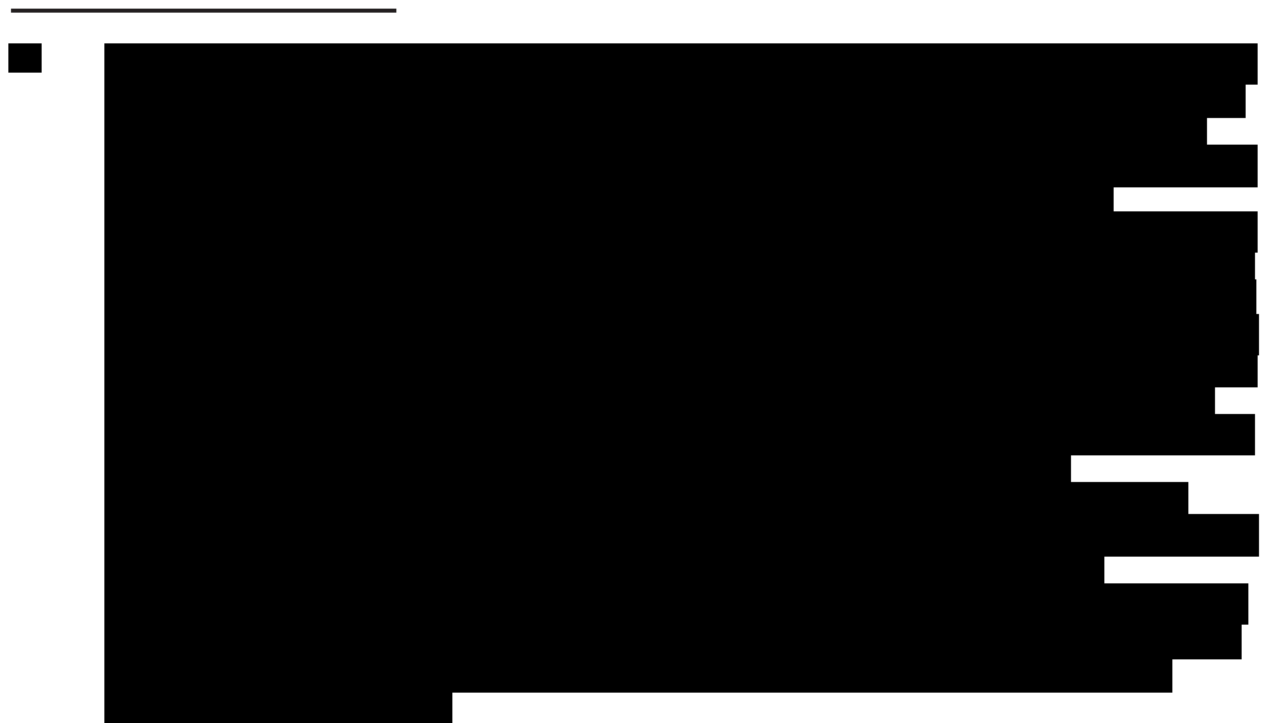
Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

252. The results of Prof. Simonson's survey also support the conclusion that advertisers would shift spend to digital video advertising in response to a small but significant increase in the price of display advertising. Figure 30 above shows that approximately 40 percent or more of advertisers that would shift spend would shift spend to digital video advertising. Figure 31

²⁸⁴ The definitions in Prof. Simonson's survey do not explicitly separate instream and outstream video. Regardless, as explained in n. 82, the majority of U.S. video ad spending is instream.

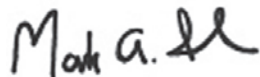
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above (and Figure 121 in the appendix) shows that those advertisers that would switch would shift a substantial amount of spending. Specifically, 60 percent or more of higher-spend advertisers and agencies that indicated that they would shift spend to digital video rated the extent of that shift between seven to ten on a scale of zero to ten, with an average rating of 6.6 to 6.8; 91 percent of the corresponding lower-spend advertisers gave a rating of seven to ten, with an average of 7.8. In addition to these results being consistent with the general point that advertisers substitute across digital advertising channels in response to performance (see paragraph 177 above), they are also consistent with deposition testimony that advertisers and/or their agencies can shift spending between video and non-video advertising based on performance.²⁸⁵



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840. Second, even if, counterfactually, Google’s conduct did lead to higher advertising prices, advertising costs do not generally translate into higher prices for the advertised products. For example, in standard price-setting models, the cost of advertising does not appear in the firm’s first-order conditions because it does not vary with output.¹³²¹ In this scenario, an increase in the cost of advertising may cause the firm to reduce its use of advertising, but would not change the price of the product(s) it is selling. Prof. Lee’s caution in stating only that retail prices *can* be higher (even under the mistaken premise that advertising costs are higher) is thus warranted.¹³²² Prof. Lee presents no economic model or empirical analysis to demonstrate that higher advertising costs, *even if they were to occur*, would be passed on to consumers or to what degree.



Mark A. Israel

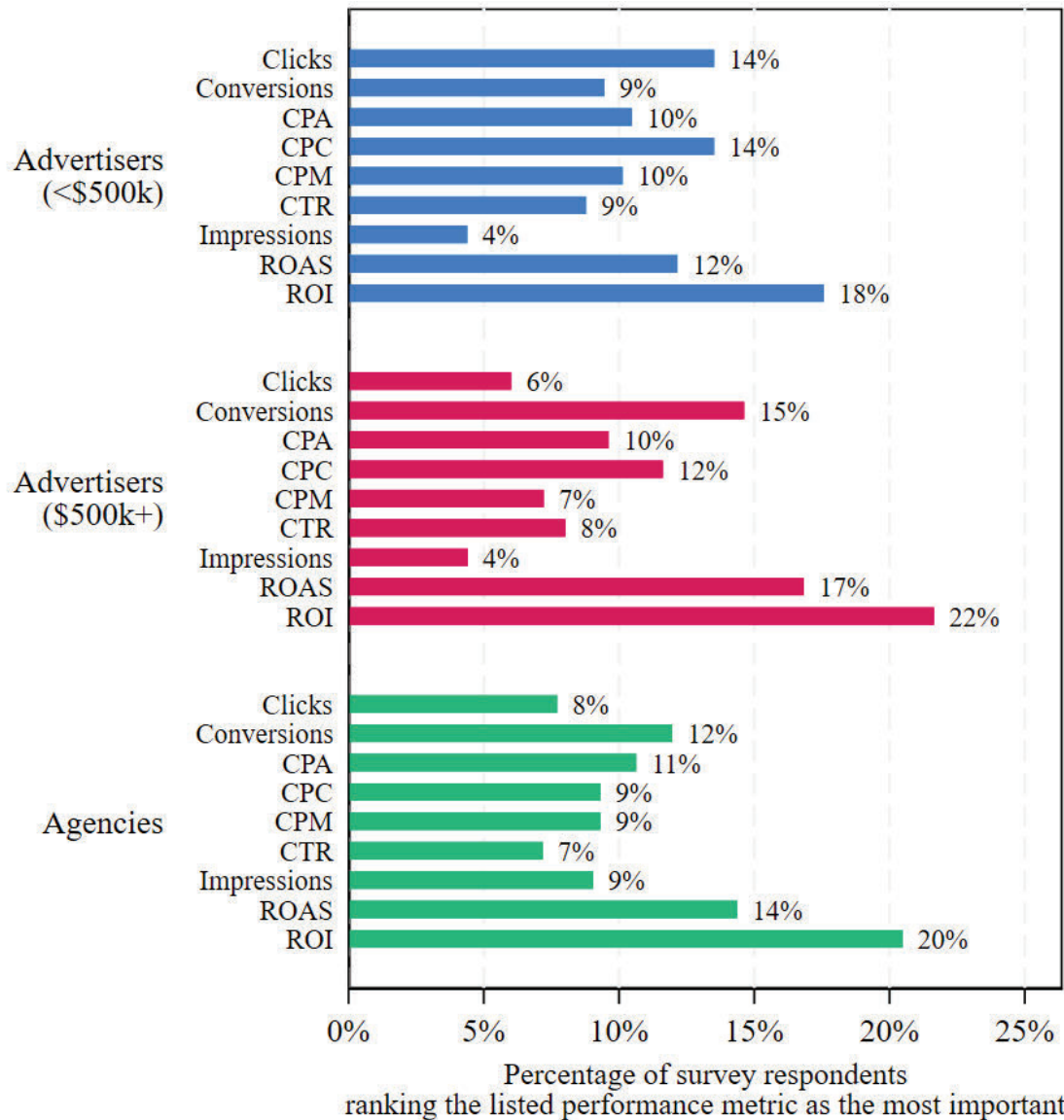
January 23, 2024

¹³²¹ Hal Varian (2022), “Advertising Costs and Product Prices,” *Journal of Law and Economics*, 65(6): S419-S431. See also *Lee Report*, ¶ 842 (“The extent to which they do so depends on the nature of competition and the characteristics of costs and demand for the product.” (citing Jeremy I. Bulow and Paul Pfleiderer (1983), “A Note on the Effect of Cost Changes on Prices,” *Journal of Political Economy*, 91(1): 182-185; and E. Glen Weyl and Michal Fabinger (2013), “Pass-Through as an Economic Tool: Principles of Incidence under Imperfect Competition,” *Journal of Political Economy*, 121(3): 528-583)).

¹³²² *Lee Report*, § VIII.B.2 (“Higher fees charged for open-web display advertising *can* lead to higher retail prices.” (emphasis added)).

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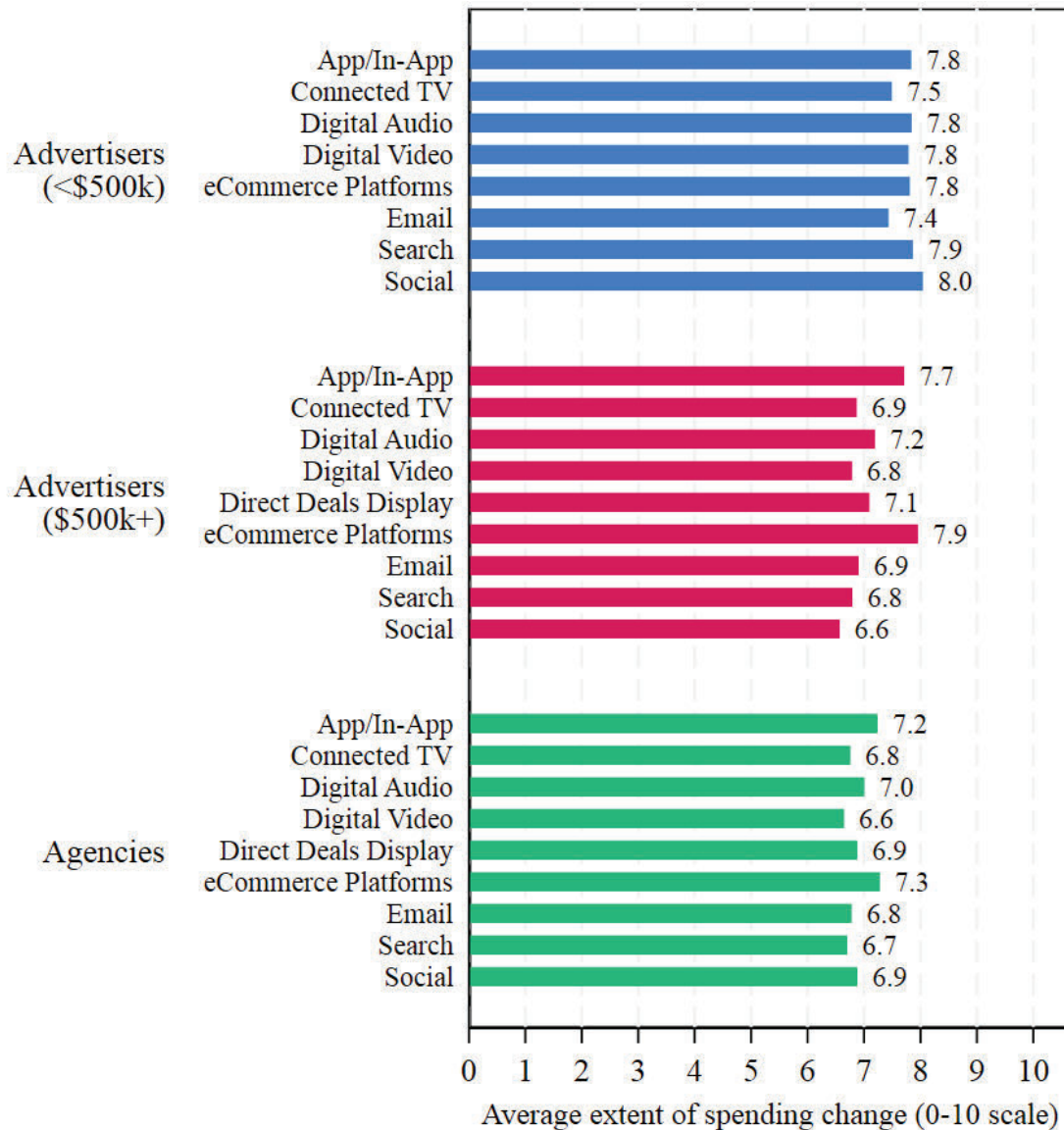
Figure 116: Most Important Display Advertising Performance Metric Among Survey Respondents



Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)

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Figure 121: Average Extent of Spending Changes Among Survey Respondents in Response to an Increase in the Cost of Programmatic Display



Sources: Appendix F.3, G.3, and H.3 (Simonson Advertiser Survey results)